AMENDMENTS TO THE CLAIMS

1. (CURRENTLY AMENDED) A fuel injection system for an internal combustion engine having an intake pipe equipped with a throttle valve, an upstream fuel injector provided upstream from the throttle valve and a downstream fuel injector provided downstream from the throttle valve, said fuel injection system comprising:

means for determining fuel injection quantities of the upstream and the downstream fuel injectors;

means for detecting an intake temperature ~~TA~~ (TA) on the upstream side from an injection area of the upstream fuel injector;

means for determining an intake temperature correction factor ~~KTA~~ (KTA) on the basis of said intake temperature ~~TA~~ (TA) and the fuel injection quantity of one of the upstream and the downstream fuel injectors; and

means for correcting at least one of said fuel injection quantities of the upstream and downstream fuel injectors on the basis of said intake temperature correction factor ~~KTA~~ (KTA).

2. (CURRENTLY AMENDED) The fuel injection system for an internal combustion engine according to claim 1, wherein said intake temperature correction factor ~~KTA~~ (KTA) is determined irrespective of said fuel injection quantity of the upstream fuel injector under a light load of the engine.

3. (CURRENTLY AMENDED) The fuel injection system for an internal combustion engine according to claim 1, wherein said intake temperature correction factor ~~KTA~~ (KTA) becomes relatively high as the fuel injection quantity of the upstream fuel injector increases.

4. (CURRENTLY AMENDED) The fuel injection system for an internal combustion engine according to claim 1, wherein said intake temperature correction factor ~~KTA~~ (KTA) is determined on the basis of said intake temperature ~~TA~~ (TA) and the fuel injection quantity of the upstream fuel injector.

5. (CURRENTLY AMENDED) The fuel injection system for an internal combustion engine according to claim 1, said means for determining said intake temperature correction factor ~~KTA~~ (KTA) further comprises means for calculating a correction factor for a light load ~~KTAL~~ (KTAL) corresponding to the intake temperature ~~TA~~ (TA), a correction factor for a heavy load ~~KTAH~~ (KTAH) corresponding to the intake temperature ~~TA~~ (TA) and a correction factor for upstream and downstream injection ~~KTA2~~ (KTA2) corresponding to the intake temperature ~~TA~~ (TA).

6. (CURRENTLY AMENDED) The fuel injection system for an internal combustion engine according to claim 4, said means for determining said intake temperature correction factor ~~KTA~~ (KTA) further comprises means for calculating a

correction factor for a light load ~~KTAL~~ (KTAL) corresponding to the intake temperature ~~TA~~ (TA), a correction factor for a heavy load ~~KTAH~~ (KTAH) corresponding to the intake temperature ~~TA~~ (TA) and a correction factor for upstream and downstream injection ~~KTA2~~ (KTA2) corresponding to the intake temperature ~~TA~~ (TA).

7. (CURRENTLY AMENDED) The fuel injection system for an internal combustion engine according to claim 5, wherein when a throttle opening and an idle speed of the engine are less than a predetermined value, said intake temperature correction factor ~~KTA~~ (KTA) will be set to said correction factor for a light load ~~KTAL~~ (KTAL).

8. (CURRENTLY AMENDED) The fuel injection system for an internal combustion engine according to claim 6, wherein when a throttle opening and an idle speed of the engine are less than a predetermined value, said intake temperature correction factor ~~KTA~~ (KTA) will be set to said correction factor for a light load ~~KTAL~~ (KTAL).

9. (CURRENTLY AMENDED) The fuel injection system for an internal combustion engine according to claim 7, wherein when a throttle opening or an idle speed of the engine are greater than a predetermined value, said intake temperature correction factor ~~KTA~~ (KTA) will be adjusted, depending on said intake temperature ~~TA~~ TA and the fuel injection quantity of the upstream fuel injector.

10. (CURRENTLY AMENDED) A method of injecting fuel for an internal combustion engine having an intake pipe equipped with a throttle valve, an upstream fuel injector provided upstream from the throttle valve and a downstream fuel injector provided downstream from the throttle valve, said method comprising the steps of:

determining fuel injection quantities of the upstream and the downstream fuel injectors;

detecting an intake temperature ~~TA~~ (TA) on the upstream side from an injection area of the upstream fuel injector;

determining an intake temperature correction factor ~~KTA~~ (KTA) on the basis of said intake temperature ~~TA~~ (TA) and the fuel injection quantity of one of the upstream and the downstream fuel injectors; and

correcting at least one of said fuel injection quantities of the upstream and downstream fuel injectors on the basis of said intake temperature correction factor ~~KTA~~ (KTA).

11. (CURRENTLY AMENDED) The method according to claim 10, wherein said intake temperature correction factor ~~KTA~~ (KTA) is determined irrespective of said fuel injection quantity of the upstream fuel injector under a light load of the engine.

12. (CURRENTLY AMENDED) The method according to claim 10, wherein said intake temperature correction factor ~~KTA~~ (KTA) becomes relatively high as the fuel injection quantity of the upstream fuel injector increases.

13. (CURRENTLY AMENDED) The method according to claim 10, wherein said intake temperature correction factor ~~KTA~~ (KTA) is determined on the basis of said intake temperature ~~TA~~ (TA) and the fuel injection quantity of the upstream fuel injector.

14. (CURRENTLY AMENDED) The method according to claim 10, said means for determining said intake temperature correction factor ~~KTA~~ (KTA) further comprises means for calculating a correction factor for a light load ~~KTAL~~ (KTAL) corresponding to the intake temperature ~~TA~~ (TA), a correction factor for a heavy load ~~KTAH~~ (KTAH) corresponding to the intake temperature ~~TA~~ (TA) and a correction factor for upstream and downstream injection ~~KTA2~~ (KTA2) corresponding to the intake temperature ~~TA~~ (TA).

15. (CURRENTLY AMENDED) The method according to claim 13, said means for determining said intake temperature correction factor ~~KTA~~ (KTA) further comprises means for calculating a correction factor for a light load ~~KTAL~~ (KTAL) corresponding to the intake temperature ~~TA~~ (TA), a correction factor for a heavy load ~~KTAH~~ (KTAH) corresponding to the intake temperature ~~TA~~ (TA) and a correction factor for

upstream and downstream injection ~~KTA2~~ (KTA2) corresponding to the intake temperature ~~TA~~ (TA).

16. (CURRENTLY AMENDED) The method according to claim 14, wherein when a throttle opening and an idle speed of the engine are less than a predetermined value, said intake temperature correction factor ~~KTA~~ (KTA) will be set to said correction factor for a light load ~~KTAL~~ (KTAL).

17. (CURRENTLY AMENDED) The method according to claim 15, wherein when a throttle opening and an idle speed of the engine are less than a predetermined value, said intake temperature correction factor ~~KTA~~ (KTA) will be set to said correction factor for a light load ~~KTAL~~ (KTAL).

18. (CURRENTLY AMENDED) The method according to claim 16, wherein when a throttle opening or an idle speed of the engine are greater than a predetermined value, said intake temperature correction factor ~~KTA~~ (KTA) will be adjusted, depending on said intake temperature ~~TA~~ (TA) and the fuel injection quantity of the upstream fuel injector.